

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and lists, of claims in the application:

1. (Currently amended) A method of detecting abnormalities in digital imagery comprising the steps of:

providing a set of binary images derived from a plurality of slice images representing cross-sections through a body;

performing a first spherical summation operation as a function of voxel locations in said set of images over a spherical region of a first radius to provide a first spherical summation value;

performing a second spherical summation operation as a function of said voxel locations in said set of images over a spherical region of a second radius to provide a second spherical summation value;

computing a ratio of said first spherical summation value to said second spherical summation value; and

comparing said ratio to a threshold value and creating a set of detection images by turning voxels ON which exceed said threshold value.

2. (Original) The method of claim 1 wherein said first spherical operation is performed over a spherical region of a first radius and said second spherical operation is performed over a spherical region of a second radius less than said first radius.

3. (Original) The method of claim 1 wherein said slice images comprise binary masks.

4. (Original) The method of claim 3 wherein said binary masks result from segmentation of said slice images.

5. (Original) The method of claim 4 wherein said segmentation corresponds to identification of an object within a body.
6. (Original) The method of claim 5 wherein said binary mask has values of -1 inside said object and values of +1 outside said object.
7. (Original) The method of claim 5 wherein said object comprises a colon.
8. (Original) The method of claim 6 wherein said object comprises a colon.
9. (Original) The method of claim 1 wherein said abnormalities comprise polyps in a colon.
10. (New) A system of detecting abnormalities in digital imagery, the system comprising:  
a set of binary images derived from a plurality of slice images representing cross-sections through a body;  
a detector, wherein said detector performs a first spherical summation operation as a function of voxel locations in said set of images over a spherical region of a first radius to provide a first spherical summation value, performs a second spherical summation operation as a function of said voxel locations in said set of images over a spherical region of a second radius to provide a second spherical summation value, computes a ratio of said first spherical summation value to said second spherical summation value, compares said ratio to a threshold value and creates a set of detection images by turning voxels ON which exceed said threshold value.
11. (New) The system of claim 10 wherein said first spherical operation is performed over a spherical region of a first radius and said second spherical operation is performed over a spherical region of a second radius less than said first radius.

12. (New) The system of claim 10 wherein said slice images comprise binary masks.
13. (New) The system of claim 12 wherein said binary masks result from segmentation of computed tomography imagery.
14. (New) The system of claim 12 wherein said binary masks result from segmentation of said slice images.
15. (New) The system of claim 14 wherein said segmentation corresponds to identification of an object within a body.
16. (New) The system of claim 15 wherein said binary mask has pixel values of -1 inside said object and pixel values of +1 outside said object.
17. (New) The system of claim 15 wherein said object comprises a colon.
18. (New) The system of claim 16 wherein said object comprises a colon.
19. (New) The system of claim 10 wherein said abnormalities comprise polyps in a colon.
20. (New) The system of claim 10 comprises a computer-aided detection system.